Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Spectrum Needs for the Implementation	)	WT Docket No. 11-79
of Positive Train Control Provisions	)	
of the Rail Safety Improvement Act of 2008	)	

REPLY COMMENTS
OF
THE METROPOLITAN TRANSPORTION AUTHORITY

The Metropolitan Transportation Authority ("MTA"), through counsel and pursuant to Section 1.415 and 1.419 of the Commission's Rules, hereby submits its Reply Comments in the above-captioned proceeding.

I. REPLY COMMENTS

In these Reply Comments, the MTA addresses the filing of Communication Architecture ("CA"), filed on the behalf of Skybridge Spectrum Foundation. The CA Comments represent several crucial misunderstandings regarding the Positive Train Control ("PTC") systems to be implemented by the MTA and other commuter railroads.

CA's Comments "… refer only to those systems being pursued by the freight railroads."[1] Therefore, CA's Comments are not applicable to the spectrum needs of passenger railroads such as the MTA. The irrelevancy of CA's Comments can be seen in the following statements:

1. Frequency Of Transmissions

[1] Comments of CA at 2.

CA states that transmissions "… for an individual train can be as infrequent as an hour apart and as frequent as every 5 (sic) minutes. In any event, this is not *real-time* transmission and certainly not challenging for even moderate private or commercial wireless systems."[2]

While this statement may be applicable to freight railroads, it certainly is not with regard to passenger railroads. For the MTA, the PTC mandate does in fact require real-time transmissions. As discussed in the MTA's Comments in WT Docket No. 10-119, the MTA Railroads will have upwards of twenty (20) trains for each railroad (during rush hours) simultaneously in need of data from as many as five interlockings within a three-mile length of track. And, such dense train operations are not limited to a single location. Rather, for Metro-North operation, there are eight locations of such dense interlocking operations, and for LIRR, there are eleven such dense interlocking operations. As a result, and as a consequence of the speed of commuter rail trains (up to sixty miles per hour, considerably faster than freight railroads), if a PTC system is unable to communicate with a train for up to two (2) minutes, the train could (under certain conditions) violate a Stop Signal, which is the very danger that PTC was designed to avoid.[3] Thus, in the case of the MTA, PTC transmissions will be constant.

2. Data Demand Analysis

CA claims that it is not aware of any data demand analysis having been performed as to PTC requirements[4]. The MTA Comments in WT Docket No. 10-119 provide such

[2] Comments of CA at 3.
[3] MTA Comments, WT Docket No. 10-119, filed on July 22, 2010 at 8.
[4] Comments of CA at 3.

an analysis.[5] Further, the MTA's consultants have presented their analysis at several industry events.

3. Shared Radio Operations

CA claims that passenger railroads will be able to use their existing spectrum when on their own property.[6] However, the mission critical nature of PTC operations demands that PTC communications cannot be shared with existing communications. As discussed previously, PTC for passenger railroads is virtually a constant communication, making shared operations impossible.

Further, CA seems to imply that narrow-banding of existing 160-161 MHz railroad spectrum will magically free up enough spectrum that PTC operations could be accommodated within the band.[7] However, while CA (inaccurately) claims that no analysis has been performed by railroads of their PTC spectrum needs, CA provides no analysis supporting its proposition that the 160-161 MHz railroad spectrum could accommodate PTC operations post-narrow-banding. In fact, the only analysis of the 160-161 MHz band provided by CA is false. Specifically, CA claims that "… the railroads elected a conventional radio approach instead of a trunked radio network which would have been ideal for the most congested portions of the industry's operation…."[8] However, now that a radio technology (very narrowband) has been selected by the railroad industry for much of its voice operations post-narrowbanding, the railroad industry is indeed reviewing the benefits of trunking at rail yards.[9]

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[5] *Id*.
[6] Comments of CA at 4.
[7] Comments of CA at 4-5.
[8] Comments of CA at 5.
[9] There is no spectrum benefit to trunked operation outside of the rail yard. In

However, even with narrowbanding, it is clear that there is insufficient spectrum at 160-161 MHz for PTC use in areas of dense PTC use (urban areas and rail yards). Because PTC 220 MHz PTC radios are not being made to cover the 160-161 MHz band, it is therefore impossible to use the 160-161 MHz band for PTC operation without doubling the wayside infrastructure to cover both bands.[10] This is an expense which makes absolutely no sense whatsoever, when a whole swath of IVDS spectrum continues to lie fallow decades after its allocation.

II. CONCLUSION

As demonstrated herein and in the MTA's other Commission filings, the need for spectrum to support PTC implementation by the MTA Railroads is urgent. WHEREFORE, the premises considered, it is requested that the Commission immediately reallocate 500 MHz of spectrum previously reserved for IVDS use for Positive Train Control.[11]

Respectfully submitted,

METROPOLITAN TRANSPORTATION AUTHORITY

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addition, it should be noted that CA's assertion on page 7 of Attachment 3 of its filing that trunked radio systems are called Specialized Mobile Radio ("SMR") systems is incorrect. An SMR system is merely a commercial version of a land mobile radio system. Indeed, there are SMR systems that are operated in conventional mode, as well as trunked mode.

[10] Similar issues are raised by using other spectrum outside of the 217-222 MHz bands.

[11] The MTA has numerous disagreements with the licensing recommendations suggested by AMTRAK. However, the MTA believes that these issues are more appropriately discussed in the context of a complete PTC rule making proceeding.

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